

In re Application of: Dan ROTTENBERG et al  
 Serial No.: 10/597,666  
 Filed: June 20, 2007  
 Office Action Mailing Date: January 7, 2010

Examiner: Susan Shan SU  
 Group Art Unit: 4193  
 Attorney Docket: 34955

**In the Claims:**

1. (Currently Amended) A differential pressure regulating device, the device comprising:

a shunt being for positioning in the septum of a heart between a left atrium and a right atrium, to enable fluids to flow between said left atrium and said right atrium, and an adjustable flow regulating mechanism, ~~being configured to selectively cover an opening of said shunt while keeping said shunt always open, to regulate and keep continuous the flow of fluid through said shunt in relation to a pressure difference between said left atrium and said right atrium.~~ configured for setting a blood flow rate through said shunt as function of a pressure differential between said left atrium and said right atrium such that an increase in said pressure differential within a first pressure differential range results in a higher blood flow rate increase through said shunt as compared to an identical increase in said pressure differential within a second differential range.

2. (Canceled)

3. (Previously Presented) The pressure regulating device of claim 1, wherein said shunt is configured for protruding into said left atrium and/or said right atrium when positioned within said septum.

4. (Currently Amended) The pressure regulating device of claim 1, wherein said ~~first flow regulating mechanism~~ pressure differential range is approximately 12-20 mmHg ~~is to be continually adjustable in accordance with changes in pressure difference between said left atrium and said right atrium.~~

5. (Original) The pressure regulating device of claim 1, comprising a control mechanism; to remotely control said flow regulating mechanism.

6. (Previously Presented) The pressure regulating device of claim 5, wherein said control mechanism includes one or more mechanisms selected from the group consisting

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of: wires, lines, springs, pins, cables, magnets, hooks, latches, electric mechanisms, pressure transducers, telemetry mechanisms, wireless mechanisms, pneumatic mechanisms, and motors.

7-8. (Canceled)

9. (Currently Amended) The pressure regulating device of claim 1, wherein said flow regulating mechanism second differential range has an upper limit of approximately 12 mmHg or a lower limit of approximately 20 mmHg.  
~~is to close the opening of said shunt.~~

10. (Cancelled)

11. (Currently Amended) ~~A~~The differential pressure regulating device, ~~the device comprising:~~

~~a shunt for positioning in the septum of a heart, between a left atrium and a right atrium, to enable fluids to flow between said left atrium and said right atrium;~~

~~an adjustable flow regulating mechanism, being configured to selectively cover an opening of said shunt while keeping said shunt always open, to regulate and keep continuous the flow of fluid through said shunt; and~~ of claim 1 further comprising

a control mechanism to be coupled to said adjustable flow regulating mechanism, said control mechanism being to remotely activate ~~activatable to adjust~~ said adjustable flow regulating mechanism.

12. (Original) The pressure regulating device of claim 11, wherein said control mechanism includes one or more mechanisms selected from the group consisting of one or more wires, lines, springs, pins, cables, magnets, hooks, latches, electric mechanisms, pressure transducers, wireless mechanisms, telemetry mechanisms, pneumatic mechanisms, and motors.

13-16. (Cancelled)

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17. (Currently Amended) ~~An in vivo pressure control method of regulating pressure in a heart chamber, the method comprising:~~

implanting a ~~differential pressure regulation device including a shunt~~ in a septum between a left atrium and a right atrium of a heart in a body of a subject in need, wherein said shunt comprises an adjustable flow regulating mechanism configured for setting a blood flow rate within said shunt as function of a pressure differential between said left atrium and said right atrium; and

deploying ~~a~~ said adjustable flow regulating mechanism, thereby regulating pressure in said left atrium.

~~controlling a setting of said flow regulating mechanism according to changes in pressure differences between said left atrium and said right atrium, and~~

~~maintaining a flow between said left atrium and said right atrium through all pressure differences between said left atrium and said right atrium.~~

18. (Currently Amended) The pressure control method of claim 17, comprising remotely controlling said adjustable flow regulating mechanism ~~positioning~~.

19. (Currently Amended) The pressure control method of claim 17, ~~comprising reducing a pressure difference between said left atrium and said right atrium~~ wherein said adjustable flow regulating mechanism is configured for setting a blood flow rate through said shunt as function of a pressure differential between said left atrium and said right atrium such that an increase in said pressure differential within a first pressure differential range results in a higher blood flow rate increase through said shunt as compared to an identical increase in said pressure differential within a second differential range.